Missouri Department of Natural Resources

PUBLIC NOTICE

APPLICATION FOR MISSOURI STATE OPERATING PERMIT

DATE: December 6, 2002

In accordance with the state Clean Water Law, Chapter 644, RSMo, Clean Water Commission regulation 10 CSR 20-6.010, and the federal Clean Water Act, the applicants listed herein have applied for authorization to either discharge to waters of the state or to operate a no-discharge wastewater treatment facility. The proposed permits for these operations are consistent with applicable water quality standards, effluent standards and/or treatment requirements or suitable timetables to meet these requirements (see 10 CSR 20-7.015 and 7.031). All permits will be issued for a period of five years, unless noted otherwise in the Public Notice for that discharge.

On the basis of preliminary staff review and the application of applicable standards and regulations, the Missouri Department of Natural Resources (MDNR), as administrative agent for the Missouri Clean Water Commission, proposes to issue a permit(s) subject to certain effluent limitations, schedules, and special conditions. The proposed determinations are tentative pending public comment.

Persons wishing to comment on the proposed effluent limitations and/or determinations are invited to submit them in writing to the Department of Natural Resources, Southeast Regional Office, 2155 N. Westwood Blvd., Poplar Bluff, Missouri 63901, ATTN: James A. Burris, P.E. Chief Engineer. Please include the permit number in all comment letters.

Comments should be confined to the issues relating to the proposed action and permit(s) and the effect on water quality. The MDNR may not consider as relevant comments or objections to a permit based on issues outside the authority of the Clean Water Commission, (see Curdt v. Mo. Clean Water Commission, 586 S.W.2d 58 Mo. App. 1979).

All comments must be postmarked January 5, 2003 or received in our office by 5:00 p.m. on January 8, 2003. The requirement of a signed document makes it impossible to accept email comments for consideration at this time. Comments will be considered in the formulation of all final determinations regarding the applications. If response to this notice indicates significant public interest, a public meeting or hearing may be held after due notice for the purpose of receiving public comment on the proposed permit or determination. Public hearings and/or issuance of the permit will be conducted or processed according to 10 CSR 20-6.020.

Copies of all draft permits, comments, and other information including copies of applicable regulations are available for inspection and copying at the department's website, http://www.dnr.state.mo.us/wpscd/wpcp/wpcp-pn.htm, or at the Department of Natural Resources, Southeast Regional Office, 2155 N. Westwood Blvd., Poplar Bluff, Missouri 63901, between the hours of 8:00 a.m. and 5:00 p.m., Monday through Friday.

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Public Notice Date: December 6, 2002
Permit Number: MO-0000281
Southeast Regional Office

FACILITY NAME AND ADDRESS	NAME AND ADDRESS OF OWNER
The Doe Run Co.- Herculaneum Smelting Div. 881 Main Street Herculaneum, MO 63048	The Doe Run Resources Corporation dba the Doe Run Company 1801 Park 270, Suite 300 St. Louis, Mo 63146
RECEIVING STREAM & LEGAL DESCRIPTION	**TYPE OF DISCHARGE**
Mississippi River, Sec.29 , T41N, R6E, Jefferson County	Industrial, modification to add slag pile And flood plain discharge.

STATE OF MISSOURI

DEPARTMENT OF NATURAL RESOURCES

MISSOURI CLEAN WATER COMMISSION

MISSOURI STATE OPERATING PERMIT

In compliance with the Missouri Clean Water Law, (Chapter 644 R.S. Mo. as amended, hereinafter, the Law), and the Federal Water Pollution Control Act (Public Law 92-500, 92nd Congress) as amended,

Permit No.	MO-0000281
Owner:	The Doe Run Resources Corporation dba The Doe Run Company
Address:	1801 Park 270, Suite 300, St. Louis, MO 63146
Continuing Authority:	Same as above
Address:	Same as above
Facility Name:	The Doe Run Co.- Herculaneum Smelting Div.
Facility Address:	881 Main Street, Herculaneum, MO 63048
Legal Description:	NE¼, SE ¼, Sec.29 , T41N, R6E, Jefferson County
Latitude/Longitude:	+3815376/-09022408
Receiving Stream:	Mississippi River (P)
First Classified Stream and ID:	Mississippi River (P) (01707)
USGS Basin & Sub-watershed No.:	(071400101-150005)

is authorized to discharge from the facility described herein, in accordance with the effluent limitations and monitoring requirements as set forth herein:

FACILITY DESCRIPTION

(See Page Two)

This permit authorizes only wastewater discharges under the Missouri Clean Water Law and the National Pollutant Discharge Elimination System; it does not apply to other regulated areas. This permit may be appealed in accordance with Section 644.051.6 of the Law.

Effective Date

Stephen M. Mahfood, Director, Department of Natural Resources
Executive Secretary, Clean Water Commission

Expiration Date

Gary L. Gaines, P.E., Director , Southeast Regional Office

FACILITY DESCRIPTION (continued) - Industry-SIC #3339

Outfal #001 - Industrial process wastewater and process storm water is treated in a wastewater plant with a design capacity of 1,152,000 gallons per day. The treatment consists of the following unit processes:

1. Flocculation
2. Neutralization
3. Sedimentation
4. Sand/Anthracite Filtration
5. Clarification
6. Sludge thickening/dewatering

Actual flow is 850 GPM. The average daily flow is .346 MGD for 1997 thru 2001

Outfall #002 - Emergency storm water overflow, no treatment. Design flow is 0.432 MGD. Actual flow is 300GPM

Outfall #003 - Acid plant non-contact cooling water, no treatment/non-contact cooling water. Design flow is 2.33 MGD

Outfall #004 - Storm water runoff from slag storage area, no treatment. Latitude 38°15'08.9", Longitude 90°22'38.9" NE ¼, SE ¼ Sec. 29, T41N, R6E, Jefferson County.

Outfall #005 - Storm water runoff from facility railroad tracks and staging area over the flood plain of the Mississippi River. This area is from the north property line at the ferry road, then south along railroad tracks to Joachim creek, thence easterly to the Mississippi River, and then northerly along the Mississippi River to the ferry road and then westerly to the point of beginning.

The sanitary waste from the toilets is treated in the Herculaneum Sewer District of Jefferson County, POTW.

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

The permittee is authorized to discharge from outfall(s) with serial number(s) as specified in the application for this permit. The final effluent limitations shall become effective upon issuance and remain in effect until expiration of the permit. Such discharges shall be controlled, limited and monitored by the permittee as specified below:

OUTFALL NUMBER AND EFFLUENT PARAMETER(S)	UNITS	FINAL EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
Outfall #001						
Flow	MGD	*		*	once/day	24 hr. estimate
pH - Units	SU	**		**	once/week	grab
Chemical oxygen demand	mg/L	(Note 3)		(Note 3)	once/week	grab
Total Suspended Solids	lbs/day	350.15		193.1	once/week	grab
Arsenic, Total Recoverable	lbs/day	12.861		5.216	once/week	grab
Cadmium, Total Recoverable	lbs/day	1.964		0.785	once/week	grab
Cadmium, Total Recoverable	mg/L	0.720			once/week	grab
Copper, Total Recoverable	lbs/day	11.839		4.750	once/week	grab
Copper, Total Recoverable	mg/L	0.580			once/week	grab
Lead, Total Recoverable	lbs/day	2.749		1.127	once/week	grab
Lead, Total Recoverable	mg/L	1.900			once/week	grab
Zinc, Total Recoverable	lbs/day	10.016		3.307	once/week	grab
Zinc, Total Recoverable	mg/L	4.900			once/month	grab
MONITORING REPORTS SHALL BE SUBMITTED MONTHLY; THE FIRST REPORT IS DUE _____.						
Silver, Total Recoverable	mg/L	0.130			Once/year In September	grab
Whole Effluent Toxicity (WET) Test	% Survival	(See special Condition #6)			Twice/year In January and August	24 hr. composite

B. STANDARD CONDITIONS

IN ADDITION TO SPECIFIED CONDITIONS STATED HEREIN, THIS PERMIT IS SUBJECT TO THE ATTACHED Parts I STANDARD CONDITIONS DATED October 1, 1980 AND HEREBY INCORPORATED AS THOUGH FULLY SET FORTH HEREIN.

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

The permittee is authorized to discharge from outfall(s) with serial number(s) as specified in the application for this permit. The final effluent limitations shall become effective upon issuance and remain in effect until expiration of the permit. Such discharges shall be controlled, limited and monitored by the permittee as specified below:

OUTFALL NUMBER AND EFFLUENT PARAMETER(S)	UNITS	FINAL EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
Outfall #002						
Flow	MGD	*		*	once/Weekday***	24 hr. total
pH - Units	SU	**		**	(Note 1)	grab
Total Suspended Solids	Lbs/day	(Note 1)			(Note 1)	grab
Arsenic, Total Recoverable	Lbs/day	(Note 1)			(Note 1)	grab
Cadmium, Total Recoverable	Lbs/day	(Note 1)			(Note 1)	grab
Copper, Total Recoverable	Lbs/day	(Note 1)			(Note 1)	grab
Lead, Total Recoverable	Lbs/day	(Note 1)			(Note 1)	grab
Zinc, Total Recoverable	Lbs/day	(Note 1)			(Note 1)	grab
MONITORING REPORTS SHALL BE SUBMITTED MONTHLY; THE FIRST REPORT IS DUE _____.						
Whole Effluent Toxicity (Wet) Test	% survival	(See Note 2) (See Special Condition #6)			Once/year December	24 hr. composite In
MONITORING REPORTS SHALL BE SUBMITTED QUARTERLY; THE FIRST REPORT IS DUE _____.						
Outfall #003						
Flow	MGD	*		*	Once/weekday***	24 hr. Total
Temperature	°F	*		*	once/weekday***	grab
pH - Units	SU	****		****	once/weekday	grab
Oil and Grease	mg/L	15		10	once/month	grab
Arsenic, Total Recoverable	mg/L	*		*	once/month	grab
Cadmium, Total Recoverable	mg/L	*		*	once/month	grab
Copper. Total Recoverable	mg/L	*		*	once/month	grab
Lead, Total Recoverable	mg/L	*		*	once/month	grab
Zinc, Total Recoverable	mg/L	*		*	once/month	grab
MONITORING REPORTS SHALL BE SUBMITTED MONTHLY; THE FIRST REPORT IS DUE _____. THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.						

B. STANDARD CONDITIONS

IN ADDITION TO SPECIFIED CONDITIONS STATED HEREIN, THIS PERMIT IS SUBJECT TO THE ATTACHED Parts I STANDARD CONDITIONS DATED October 1, 1980, AND HEREBY INCORPORATED AS THOUGH FULLY SET FORTH HEREIN.

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

The permittee is authorized to discharge from outfall(s) with serial number(s) as specified in the application for this permit. The final effluent limitations shall become effective upon issuance and remain in effect until expiration of the permit. Such discharges shall be controlled, limited and monitored by the permittee as specified below:

OUTFALL NUMBER AND EFFLUENT PARAMETER(S)	UNITS	FINAL EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
Outfalls #004 and #005 All Parameters, Effluent Limits, Monitoring and Reporting will be addressed in the Administrative Order on Consent, United States Environmental Protection Agency IN MATTER OF: The Doe Run Resources Corporation, Herculaneum, Missouri, Docket Number RCRA-7-2000-0018/CERCLA-7-2000-0029, as outlined in the statement of work appendix A.IV. and A.V, which is attached to and by reference made a part of this permit.						

B. STANDARD CONDITIONS

IN ADDITION TO SPECIFIED CONDITIONS STATED HEREIN, THIS PERMIT IS SUBJECT TO THE ATTACHED Parts I & III STANDARD CONDITIONS DATED October 1, 1980 and August 15, 1994, AND HEREBY INCORPORATED AS THOUGH FULLY SET FORTH HEREIN.

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (continued)

* Monitoring requirement only.

** pH is measured in pH units and is not to be averaged. The pH is limited to the range of 7.5-10.0 pH units

*** Once each weekday means: Monday, Tuesday, Wednesday, Thursday, and Friday.

**** pH is measured in pH units and is not to be averaged. The pH is limited to the range of 6.0-9.0 pH units.

Note 1 - Once per month during any month in which a discharge occurs form Outfall #002, the discharge from both Outfalls #001 and Outfall #002 shall be sampled on the same day and reported together. The combined effluents discharging from both Outfalls #001 and Outfall #002 shall not exceed the discharge mass limitations set forth for Outfall #001. If no discharge from Outfall #002 occurs, then permittee shall report no discharge from Outfall #002.

Note 2 - Once per year during a month in which a discharge occurs form Outfall #002, a sample shall be collected and a WET test run in conformance with Special Condition #6. If no discharge occurs form Outfall #002 during the year report no discharge from Outfall #002 during the past year.

Note 3 - Interim effluent limits are monitoring only until June 30, 2003. Final limits of 120 mg/L Daily Maximum and 90 mg/L Monthly average are effective July 1, 2003 and remain in force until expiration of the permit. See Schedule of Compliance Item B1.

C. SCHUDLE OF COMPLIANCE

A1. By December 1, 2003, the Doe Run Company shall submit to the Missouri Department of Natural Resources (MDNR) the following:

The standard operating procedures for operations when a sump pump failure occurs including anticipated response and repair times to return to normal operations. An operations log shall be kept on down time and should water loss exceed guidelines contained in 10 CSR 20-8.120 (6) (H) 2 for the size and length of pipe, the MDNR may reopen and modify the permit.

C. SCHUDLE OF COMPLIANCE (continued)

B1. By December 31, 2003 the permittee shall submit an engineering evaluation of the process wastewater tributary to Outfall #001 and specify means to achieve the effluent limits established herein. These final limitations shall become effective September 1, 2004.

D. SPECIAL CONDITIONS

1. Any sludge removed shall be processed through the smelting process, or the MDNR shall be contacted for approval of the alternate disposal method.

2. Changes in Discharges of Toxic Substances

The permittee shall notify the Director as soon as it knows or has reason to believe:
(a) That any activity has occurred or will occur which would result in the discharge of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels:"
  (1) One hundred micrograms per liter (100 µg/L);
  (2) Two hundred micrograms per liter (200 µg/L) for acrolein and acrylonitrile; five hundred micrograms per liter (500 µg/L) for 2,5 dinitrophenol and for 2-methyl-4, 6-dinitrophenol; and one milligram per liter (1 mg/L) for antimony;
  (3) Five (5) times the maximum concentration value reported for the pollutant in the permit application;
  (4) The level established in Part A of the permit by the Director.
(b) That they have begun or expect to begin to use or manufacture as an intermediate or final product or byproduct any toxic pollutant, which was not reported in the permit application.

3. This permit may be reopened and modified, or alternatively revoked and reissued, to:

(a) Comply with any applicable effluent standard or limitation issued or approved under Sections 301(b) (2) (C) and (D), 304(b)(2), and 307(a) (2) of the Clean Water Act, if the effluent standard or limitation so issued or approved:
  (1) contains different conditions or is otherwise more stringent than any effluent limitation in the permit: or
  (2) controls any pollutant not limited in the permit.
(b) Incorporate new or modified effluent limitations or other conditions, if the result of a waste load allocation study, toxicity test or other information indicates changes are necessary to assure compliance with Missouri's Water Quality Standards.
(c) Incorporate new or modified effluent limitations or other conditions if, s the result of a watershed analysis, a Total Maximum Daily Load (TMDL) limitation is developed for the receiving waters which are currently included in Missouri's list of waters of the state not fully achieving the state's water quality standards, also called the 303(d) list.
(d) Address violation of the AOC as referenced in Section A. Effluent Limitations and Monitoring Requirements is violation of the NPDES permit. The permit can be reopened and additional monitoring can be added without public notice.

The permit as modified or reissued under this paragraph shall also contain any other requirements of the Clean Water Act then applicable.

D. Special Conditions (continued)

4. Discharges shall not cause violations of the general criteria as defined in the Water Quality Standards 10 CSR 20-7.031 (3) including but not limited to the following criteria:
   (a) Waters shall be free from substances in sufficient amounts to cause formation of putrecents, unsightly or harmful bottom deposits or prevent full maintenance of beneficial used;
   (b) Waters shall be free from oil, scum and floating debris in sufficient amounts to be unsightly or prevent full maintenance of beneficial uses;
   (c) Waters shall be free from substances in sufficient amounts to cause unsightly color or turbidity, offensive odor or prevent full maintenance of beneficial uses; and
   (d) Waters shall be free from substances or conditions in sufficient amounts to have a harmful effect on human, animal or aquatic life.

5. A Quality assurance/Quality control (QA/QC) plan shall be maintained for samples analyzed by the permittee, and QA/QC plans submitted for any other laboratories which will be used to fulfill monitoring requirements.

6. Whole Effluent Toxicity (WET) tests will be conducted as follows:

SUMMARY OF WET TESTING FOR THIS PERMIT				
OUTFALL	A.E.C. %	FREQUENCY	SAMPLE TYPE	MONTH
Outfalls 001, 002	10%	Annually	24 hr. comp.	December

(a) Test Schedule and Follow-Up Requirements

(1) Perform a single-dilution test in the months and frequency specified above.

If the test passes the effluent limit do not repeat test until the nest test period. Submit results with the annual report.

If the effluent fails the test a multiple dilution test shall be performed within 30 days, and biweekly thereafter until one of the following conditions are met:

a. THREE CONSECUTIVE MULTIPLE-DILUTION TESTS PASS. No further tests need to be performed until next regularly scheduled test period.

b. A TOTAL OF THREE MULTIPLE-DILUTION TESTS FAIL.

(2) The permittee shall submit a summary of all test results for the test series to the Planning Section of the WPCP, DNR, Box 176, Jefferson City, MO within 14 days of the third failed test. DNR will contact the permittee with initial guidance on conducting a toxicity identification evaluation (TIE) or toxicity reduction evaluation (TRE). The permittee shall submit a plan for conduction a TIE or TRE to the Planning Section of the WPCP within 60 days of the date of DNR's letter. This plan must be approved by DNR before the TIE or TRE is begun. A schedule for completing the TIE or TRE is begun. A schedule for completing the TIE or TRE shall be established in the plan approval.

D. Special Conditions (continued)

6. Whole Effluent Toxicity (WET) Test (continued)

(a) Test Schedule and Follow-Up Requirements (continued)

(3) Upon DNR's approval, the TIE/TRE schedule may be modified if toxicity is intermittent during the TIE/TRE investigations. A revised WET test schedule may be established by DNR for this period.

(4) If a previously completed TIE has clearly identified the cause of toxicity, additional TIEs will not be required as long as effluent characteristics remain essen5tially unchanged and the permittee is proceeding according to a DBNR approved schedule to complete a TRE and reduce toxicity. Regularly scheduled WET testing as required in part (b)(1) will be required during this period.

(5) All WET test results for the reporting period shall be summarized and submitted to DNR by the end of the following October. When WET test sampling is required to run over one DMR period, each DMR report shall contain information generated during the reporting period.

(6) In addition to the WET test summary report required in part (5), all failing test results shall be reported to DNR within 14 days of the availability of results.

(b) PASS/FAIL procedure and effluent limitations

(1) To pass a single-dilution test, mortality observed in the AEC test concentration shall not be significantly different (at the 95% confidence level; $p = 0.05$) than that observed in the upstream receiving-water control. The appropriate statistical tests of significance will be those outlined in the most current USEOA acute toxicity manual or those specified by the MDNR.

(2) To pass a multiple-dilution test:

a. The computed percent effluent at the edge of the zone of initial dilution (AEC) must be less than three-tenths (0.3) of the LC_{50} concentration for the most sensitive of the test organisms, or,

b. all dilutions equal to or greater than the AEC must be nontoxic. Failure of one multiple-dilution test is considered an effluent limit violation.

(c) Test Conditions

(1) Test species: Ceriodaphnia dubia and fathead minnows, Pimephales promelas. Organisms used in WET testing should come from cultures reared for the purpose of conducting toxicity tests and should be cultured in a manner consistent with the most current USEPA guidelines. All test animals should be cultured as described in EPA-600/4-90/027.

(2) Test period: 48 hours at the "Acceptable Effluent Concentrations" (AEC) specified above.

D. Special Conditions (continued)

6. Whole Effluent Toxicity (WET) Test (continued)

c. Test Conditions (continued)

(3) When dilutions are required, upstream receiving water will be used as dilution water. If upstream water is unavailable or if mortality in the upstream water exceeds 10%, "reconstituted" water will be used. Procedures for generating reconstituted water will be supplied by the MDNR.

(4) Tests should be initiated immediately after the sample is collected, but tests must be initiated no later than 36 hours after collection.

(5) Single-dilution tests will be run with:

a. Effluent at the AEC concentration;
b. 100% receiving-stream water (if available), collected upstream of the outfall at a point beyond any influence of the effluent; and
c. reconstituted water.

(6) Multiple-dilution tests will be run with:

a. 100%, 50%, 25%, 12.5% and 6.25% effluent, unless the AEC is less than 25% effluent, in which case dilutions will be 4 times the AEC, Two times the AEC, AEC, ½ AEC, and ¼ AEC.
b. 100 % receiving-stream water (if available), collected upstream of the outfall at a point beyond any influence of the effluent; and
c. reconstituted water.

(7) If reconstituted-water control mortality for a test species exceeds 10%, the entire test will be rerun.

Administrative Order on Consent, United Stated Environmental Protection Agency IN MATTER OF: The Doe Run Resources Corporation, Herculaneum, Missouri, Docket Number RCRA-7-2000-0018/CERCLA-7-2000-0029, as outlined in the statement of work appendix A.IV. and A.V.

IV. Slag Pile/Surface Water/Sediment/Groundwater -

1. Within Sixty days of the effective date of the AOC, Doe Run shall submit an Interim Slag Pile Runoff Control Plan which shall at a minimum include the following:

   A. A list and evaluation of short-term measures to control runoff and erosion of particulate slag from the site. Doe Run shall consider as interim measures, at a minimum: increased security to keep unauthorized people off of the pile; the use of hay bales, silt fences, or interceptor trenches;, stormwater retention; and berming. In evaluating the short-term measures, Doe Run shall focus on assessing the rate, extent, magnitude of nearby contamination, potential for integration into a long-term plan for control of the site, effectiveness, implement ability, and cost.

   B. Doe run shall implement the short term controls selected by EPA and MDNR within 120 days after agency approval of the interim Slag Pile Runoff Control Plan.

2. Within 120 days of the effective date of the AOC, Doe Run shall submit a slag Pile/Surface Water/Sediment Sampling and Analysis Plan (SAP). The purpose of this Plan shall be to collect sufficient data to identify the source and transport pathways of contaminants, as well as provide a basis for characterizing the exposure risks and injury posed by the contaminants and evaluating potential management options.

   A. As part of the Slag Pile/Surface Water/Sediment SAP, Doe Run shall include plans to:

      a. conduct an evaluation of available soil, sediment, surface water, groundwater and biological data related to the slag pile, Joachim Creek and the nearby Mississippi River and floodplain. The results of the data evaluation shall be utilized to identify data gaps and guide future sampling and analysis efforts.

      b. Prepare a conceptual site model (CSM) for the slag pile assessment area that includes a description of potential contaminant sources, pathways, and exposures/receptors.

      c. Identify and characterize the composition of the slag materials including potential contaminants, metals content, particle sizes, relationships between particle size and metals content, metal speciation and any differences based on the age of the slag.

      d. Identify and characterize the transport mechanisms, pathways, and deposition areas for metals originating from the slag pile. Systematic monitoring of the flood plain around the slag pile shall be conducted to map deposition areas. This evaluation shall be conducted under normal flow and flood conditions in both Joachim Creek and the Mississippi River. This evaluation shall also be conducted to characterize at least two rain events to assess the drainage from the pile as well as the patterns in sheet flow on the flood plain.

      e. Identify and characterize all surface water discharge points into Joachim Creek within 1 ½ miles upstream of the confluence with the Mississippi River. Representative sediment and surface water samples shall be collected at these discharge points. Representative samples shall also

be collected at the confluence of Joachim Creek and the Mississippi River.

f. Identify and sample surface water, sediment, soil and groundwater from background and reference locations, as appropriate, to support the CMS. Background locations should identify and assess conditions from natural sources in the regional geology, soils and atmosphere. Reference locations should assess regional conditions that have resulted from anthropogenic sources not associated with the smelter or its operation.

g. Prepare a habitat map of Joachim Creek and its flood plain, as defined in Executive Order 11988 3 CFR 117 (1978); as amended by Executive Order 12148, 3 CRF 412 (1980), up to 1 ½ miles upstream of the confluence with the Mississippi River. Use field surveys and other appropriate mans to characterize the baseline ecological conditions, including the identification of a reference area. Field survey techniques such as the index of biotic integrity (IBI) rapid bioassessment protocol (RBP) floristic indices, and habitat suitability indices (HSIs) may be appropriate, depending on site specific features.

h. Prepare a plan to sample whole fish and fish fillets from Joachim Creek and nearby in the Mississippi River. The approach shall investigate the complete exposure pathways that are identified in the CSM, and include selection criteria for fish species to collect as well as appropriate sample locations and season conditions.

B. Within 210 days of agency approval of the Slag Pile/Surface Water/Sediment SAP, Doe Run shall complete the sampling described in the plan above. A Slag Pile/Surface Water/Sediment Assessment Report describing the sampling and analysis shall be developed within the time frame approved by the agencies, as documented in the approved SAP.

3. Within 150 days of agency approval of the Slag Pile/Surface Water/Sediment Assessment Report (as described above), Ecological Risk Assessment Report and Natural Resource Damage Assessment (NRDA) Pre-assessment Report (as described below), Doe Run shall submit a Slag Pile Response Options Evaluation Report. This Report shall be similar to an Engineering Evaluation and Cost Analysis Report or Corrective Measures Study. In this Slag Pile Response Options Evaluation Report, Doe Run shall assess viable options for relocating the slag pile, as well as reassess final closure along with implementing interim measures to manage releases from the pile while it is still in operation. In developing this document, Doe Run shall evaluate the following:

A: Relocating the Slag Pile -

a. The relocation of slag from the flood plain to a more suitable site and restoration of the site.

B: Interim Measures -

a. Construction of a levee surrounding the pile;

b. Stabilization involving regarding the pile to reduce slopes to a minimum of 4:1 ration;

c. A berm or rip rap cover around the circumference of the pile to protect it from high velocity flood events;

d. Trenches and settling ponds to capture all of the runoff from the pile.

e. A geo-textile membrane with rip-rap placed around the sides of the pile; and

f. Maintaining the pile in its existing footprint, i.e. no lateral expansion.

C. Final Choice -

a. Total coverage of the pile, with the addition of a geo-textile liner beneath the cap.

b. Use of biosolids to form a growing media on the slag pile. Biosolids may include combinations of composted sewage sludge, composted livestock manure or poultry house litter, paper mill waste, sawdust, etc.

c. Chemical stabilization of the pile using phosphoric acid, apatite, and/or lime.

d. Establishing vegetation on the pile. Note, Doe Runs shall demonstrate that metal toxicity is not being transferred to the food chain through the established vegetated cover.

e. Other chemical stabilization techniques involving solidification, such as mixing the slag with pozzolonic cement or fly ash.

f. Re-smelting of the slag.

g. Each option evaluated shall include a schedule for termination of the placement of slag on the existing slag pile, floodplain and/or wetlands.

h. A description of how short term activities will be consistent with the long-term actions on the pile, i.e., how facets of the long-term plan such as possible covers can be implemented as soon as areas of the pile are constructed to final contours. Doe Run shall evaluate and discuss how these actions will be implemented while the remainder of the pile is still actively receiving slag.

i. A preliminary habitat restoration plan for returning the functions, uses and services provided by the floodplain wetlands that are currently being used to store slag and for floodplain wetlands altered by any restoration processes; and, a compensation plan for those functions, uses and services that are not able to be restored due to physical loss and/or chemical contamination.

D. Operation and Maintenance (O&M):

a. A long-term operation & maintenance program shall be evaluated if any slag remains in the pile upon completion of the activities required by the AOC, which includes inspections, repairs, and preventative measures that must occur routinely to ensure the integrity of the closure.

b. In addition, Doe Run shall consider operation and maintenance (O&M) needs in response to incidents that will likely occur over the

lifetime of the facility, including major earthquakes and major floods.

4. Within 120 days of the effective date of the AOC, Doe Run shall submit a workplan for conducting an Ecological Risk Assessment (ERA) for the slag pile area, including both aquatic and terrestrial environments (including upland organisms, aquatic receptors, and, avian and mammalion species utilizing the aquatic resources). Doe Run shall utilize current EPA guidance for conducting the ERA, including the Ecological Risk Assessment Guidance for Superfund, June 1997. A biological Technical Assistance Group (BTAG) shall be formed, consisting of EPA, MDNR, MDOH, Missouri Department of Conservation and USF&W. The workplan will be subject to TGAG review and approval. Prior to workplan preparation, Doe Run shall conduct a workplan scoping meeting with the BTAG and any other agencies deemed appropriate. The scoping meeting will be held to discuss data collection requirements, schedules, and tasks to be included in the workplan. The BTAG shall designate, after consultation with Due Run, all values and assumptions to be used in the ERA. During consultation with Doe Run, the BTAG may consider justification presented by Doe Run in determining all values and assumptions to be used in the ERA to the extent allowed by applicable guidance and accepted practices. The results of the ERA shall be considered during preparation of the Slag Pile Response Options Evaluation Report to ensure that ecological risks are understood and properly managed when evaluating response options. The Ecological Risk Assessment Report will be submitted concurrently with the Slag Pile Surface Water/Sediment Assessment Report and NRDA Pre-Assessment Report within the time frame outlined in the approved SAP.

5. Groundwater Monitoring

   A. Phase 1:

      a. Within 120 days of the effective date of the AOC, Doe Run shall submit a Groundwater Monitoring Plan meeting the following requirements:

         1. Doe Run shall prepare a Current Conditions report which provides a summary of background and previous groundwater investigations related to impacts from the slag pile area, a description of the nature and extent of contamination, and an evaluation of the extent to which previous groundwater sampling, well construction, sample preservation and sample analyses were consistent with EPA protocol and guidance including the Groundwater Monitoring Technical Enforcement Guidance Document 1986, RCRA Ground-Water Monitoring Draft Technical Guidance 1992, and RCRA Facility Investigation Guidance Manual.

         2. All future groundwater sampling, well construction, sample preservation and sample analysis shall be consistent with the EPA protocol and guidance documents described above.

         3. For monitoring well purging prior to future well sampling, Doe Run shall propose when enough volume of water has been purged by extracting ground water from the well at low rates using a pump. The rate at which ground water from the well at low rates using a pump. The rate at which ground water is extracted from the well during purging ideally should be less than approximately 0.2 to 0.3 liters per minute (L/min). Purging should continue until measurements of turbidity in in-line or downhole analysis of ground water have stabilized within approximately 10% over at least two measurements (over two successive measurements made three minutes apart).

         4. Documentation that the proper screen slot size and filter pack was used during well installation needs to be provided. If this was not done, Doe

Run shall install additional wells with proper screen and filter pack combination.

5. Doe Run shall sample existing site monitoring wells and agreed upon residential wells within 1 mile of the slag piles using proper development and sampling techniques.

6. All ground water samples shall be analyzed for total metals and any additional analysis determined to be necessary based on former waste handling activities conducted in the slag pile area. This shall be done on a quarterly basis for one year. If Doe Run wishes to analyze the water samples for dissolved metals, in addition to the total metals analysis, for comparison of the two data sets, it may do so; however, only total metals analysis is required.

7. Pumping data for the City of Herculaneum wells shall be obtained and compared to water level information from the deep monitoring well #8 to see if there is a hydraulic connection.

8. Installation of at least one additional background well in the alluvial aquifer for comparison to the existing alluvial aquifer wells installed adjacent to the slag pile shall be required. The background location shall be free from impact from the slag or other operations conducted at the Facility. The need for additional background wells in the alluvial aquifer, or deeper water-bearing zones, will be evaluated as part of the current conditions report and following two rounds of quarterly groundwater monitoring of existing site monitoring wells.

9. A schedule for future groundwater monitoring well sampling. The groundwater data collected in the future shall be sufficient to define the extent, origin, direction, and rate of movement of contaminant plumes on site and off-site. Data shall include time and location of sampling, media sampled, concentrations found, conditions during sampling, and the identity of the individuals performing the sampling and analysis.

10. A SAP/QAPP will be incorporated into the Groundwater Monitoring Plan.

b. Within ninety days of agency approval of the Groundwater Monitoring Plan, Doe Run shall implement quarterly monitoring.

1. Doe Run shall provide the agencies the opportunity to split samples by giving the lead agency 30 days notice prior to each sampling round.

7. Doe Run shall provide the agencies a Groundwater Analysis Report within 45 days of completion of each quarterly sampling event. The Groundwater Analysis Report shall include analysis and summary of all groundwater investigations and their results. The objective of this task shall be to ensure that the investigation data are sufficient in quality (e.g. quality assurance procedures have been followed) and quantity to define the nature and extent of contamination, the potential threat to human health and/or the environment, and to support the response options evaluated for groundwater. The Groundwater Analysis Report shall include an analysis of all groundwater investigation data collected, a determination of the type and extent, both horizontal and vertical, of contamination resulting from the operations of the slag pile, including sources and migration pathways. The Report shall include a description of the extent of contamination (qualitative/quantitative) in relation to background levels indicative of the area, as well as indicate the level of certainty of its conclusions.

B. Phase 2:

a. If EPA or MDNR determines that the results of Phase 1 activities shows that the current number, location, or depth of monitoring wells installed to monitor impacts from the slag pile area is insufficient to adequately monitor and characterize the contamination plumes found or that the levels of contaminants of concern found in groundwater are above MCLs, SMCLs, or alternate concentration limits approved by the agencies, the lead agency shall notify Doe Run that a Phase 2 Groundwater Monitoring Plan shall be submitted within 120 days of written notification. Doe Run shall prepare a Phase 2 Groundwater Monitoring plan that includes the following possible activities:

1. Doe Run shall propose the number, location, and depth of additional wells to be installed in aquifers beneath the areas impacted by the slag pile operation to more completely characterize the groundwater flow regime at the site and to identify conduits within the bedrock beneath the slag.

b. Within an agreed upon time period, Doe Run shall implement the first round of quarterly monitoring following standard procedures and guidance described above.

1. Doe Run shall provide the agencies the opportunity to split samples by giving the lead agency 30 days notice prior to each sampling round.

2. Doe Run shall provide the agencies a Phase 2 Groundwater Analysis Semi-annual Report within 45 days of completion of two quarterly sampling events.

c. If EPA or MDNR determines that the results of Phase 2, groundwater contamination associated with the operation of the slag pile area-exceeds MCLs, SMCLs, and/or an agency-approved alternate concentration limit, or if groundwater contamination is found to be a substantial source of metal loading to surface water, Doe Run shall prepare an evaluation for groundwater response alternatives and associated cost analysis of each response alternative. This evaluation shall be in accordance with EPA adjectives similar to those of a RCRA Corrective Measures Study (CMS) or an Engineering Evaluation/Cost Analysis (EE/CA) report. The evaluation report shall analyze the results of the groundwater investigations completed in the areas impacted by the slag pile operation to identify, screen and develop the alternative or alternatives for extraction, containment, treatment and/or other responses to the contamination based on the objectives established for the corrective action considered. The evaluation of response options will be due within 270 days of agency approval of the Phase 2 Groundwater Analysis Report.

6. Within 150 days of agency approval of the Slag Pile/Surface Water/Sediment Assessment Report, Ecological Risk Assessment Report and NRDA Pre-Assessment Report, Doe Run shall submit a Surface Water and Sediment Response Options Evaluation Report. This Report shall be similar to an Engineering Evaluation and Cost Analysis Report or Corrective Measures Study of alternatives for responding to the surface water and sediment contamination.

7. Within 120 days of the effective date of the AOC, Doe Run shall submit a Natural Resource Damage Assessment (NRDA) plan. In conjunction with the ERA described above, Doe Run shall gather sufficient data, samples and other information, in cooperation with the Natural Resource Trustees, necessary for a NRDA of the affected area. Said NRDA shall be conducted cooperatively and consistent with CERCLA, the NCP, and the NRDA regulations promulgated by the U.S. Department of the Interior, 43 C.F.R. Part 11. Doe Run shall have the opportunity to suggest, and present justification for,

alternative procedures, values, and assumptions to be used in the NRDA. The Natural Resource Trustees shall consider said alternatives to the extent allowed by law, regulation, applicable guidance and accepted practices. However, approval of said alternatives remains with the authority and discretion of the Natural Resource Trustees.

The goal of the NRDA will be to develop an environmental project or projects to address past, interim and future losses of natural resources as defined under CERCLA.

Throughout the response activities to be undertaken pursuant to the AOC, Doe Run will meet with the Natural Resource Trustees to discuss project planning options, decisions, and special concerns associated with the site in order to incorporate, to the extent practical, restoration, replacement, rehabilitation or acquisition of the equivalent of the injured natural resources, with response activities.

A NRDA Pre-assessment Report will be submitted concurrently with the Slag Pile Surface Water/Sediment/Groundwater Assessment Report and Ecological Risk Assessment Report within the time frame outlined in the approved SAP.

V. Other issues -

1. Within 180 days of the effective date of the AOC, Doe Run shall submit a copy of all sample results and investigations previously conducted at the following areas:

   a. The older slag pile near the acid plant;

   b. Stormwater runoff from the facility unrelated to the slag pile;

   c. Discharges from the wastewater treatment facility;

   d. Other groundwater contamination sources such as areas where solvents or fuels may have been used;

   e. The interim slag storage areas;

   f. The staging areas for shipping;

   g. Other processing areas such as solvent use areas, and acid production facilities,

2. Within 180 days of the effective date of the AOC, Doe Run shall identify all potential receptors for smelter contamination including receptors across the river in Illinois all well as offsite fish and wildlife habitats.

3. Within one year of the effective date of this Order, Doe Run shall submit an Other Areas Evaluation Report evaluating the sample results and investigations previously conducted at the areas identified in item 1 above. This Report shall identify additional investigation and sampling needed to determine the extent of contamination to air, surface water, and groundwater in or from the areas identified in item 1 above.

4. Within two years of the effective date of this Order, Doe Run shall conduct the sampling and investigations identified in the Other Areas Evaluation Report.

5. Any significant risks to human health or the environment found as a result of the sampling and investigations conducted pursuant to the Other Areas Evaluation Report shall be addressed through a revision to this Order, or another action brought by EPA, MDNR, MDOH or USF&W.

Date of Fact Sheet: July 23, 2001

Date of Public Notice:

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT
FACT SHEET

This Fact Sheet explains the applicable regulations, rationale for development of this permit and the public participation process.

NPDES PERMIT NUMBER: MO-0000281

FACILITY NAME: The Doe Run Company - Herculaneum Smelter Division

OWNER NAME: The Doe Run Resources Corperation

LOCATION: U.S. Survey 3028 T41N R6E County: Jefferson

RECEIVING STREAM: Mississippi River

FACILITY CONTACT PERSON: James M. Lanzafame TELEPHONE: 314/933-3143

FACILITY DESCRIPTION AND RATIONALE

The Doe Run Resources Corporation, dba The Doe Run Company, 1801 Park 270 Drive, Suite 300, St. Louis, MO 63146, (a subsidiary of The Renco Group, 45 Rockefeller Plaza, 36th Floor, New York, NY 10111), applied for a renewal of permit MO-0000281, the company's wastewater discharge permit. The facility is located in SE 1/4, Section 29, T41N, R6W, Jefferson County, Missouri. The Standard Industrial Classification (SIC) codes for the facility is #3339. In the renewal application the company requested authorization to continue to discharge treated process wastewater and process storm water to the environment through Outfall #001. Outfall #002 discharges excess (beyond the pumping and treatment plant capacity) stormwater with no treatment. Outfall #003 discharges acid plant non-contact cooling water with no treatment. Outfalls #004 and #005 consists of stormwater.

This permit will be issued for a period of five years.

TECHNOLOGY BASED EFFLUENT LIMITATIONS

Federal regulations promulgated at 40 CFR §122.44(a) require technology based effluent limitations be placed in NPDES permits based on National effluent limitations guidelines and standards, best professional Judgement (BPJ), or a combination of the two. Discharges from outfalls 001, 002, and 003 are subject to effluent limitations given in 40 CFR Part 421 nonferrous metals guidelines, and also State of Missouri effluent and water quality standards contained in 10 CSR 20 chapter 7.

BUILDING BLOCK METHOD OF ESTABLISHING LIMITS

Using this method, a facility receives a discharge allowance for each individual process only if it actually has the capability of operating that process. However, the facility does not have to be discharging wastewater from the process to receive the allowance. The building blocks may include allowances for contaminants from both categorically regulated processes (scope flows) and non-regulated processes (non-scope flows), for facilities which have combined waste streams.

BASIS OF CATEGORICAL MASS LIMITS FOR OUTFALL #001

Effluent mass limits for lead, zinc, cadmium, arsenic, copper, antimony, ammonia, and total suspended solids (TSS) are based on the best available technology (BAT) limitations specified in the Primary lead subcategory in 40 CFR ∋ 421.73 (a), (c), (j), and (k); and based on the best practical technology (BPT) limitations specified in the Primary lead subcategory in 40 CFR ∋ 421.72 (a), (c), (j), and (k) where BAT limits have not been specified; and based on the Standards of performance for new sources specified in the Secondary lead subcategory in 40 CFR ∋ 421.134 (a), (f), (i), and (j); and based on BAT limitations specified in the Metallurgical acid plants subcategory in 40 CFR ∋ 421.93. These limitations are shown below. In addition, because of the combined waste streams that are regulated, there are allowances made for pollutants which are regulated in one subcategory, but not in the other subcategories. This was done by using the EPA Final Development Document for Effluent Limitations Guidelines and Standards for the Nonferrous Metals Manufacturing Point Source Category (volumes III & IV). Those allowances are marked by (DD) on the following pages.

PRIMARY LEAD SUBCATEGORY

(d) Dross Reverbatory slag granulation given in lbs/10^9 lbs of slag, matte, or speiss granulated

Pollutant	Daily Max.	Monthly Avg.
Lead (BAT)	1,612.000	748.400
Zinc (BAT)	5,872.000	2,418.000
TSS (BPT) *	236,000.000	112,300.000
Cadmium (DD)(BAT)	1,151.000	460.600

(j) Employee handwash given in lbs/10^9 lbs of lead bullion produced

Pollutant	Daily Max.	Monthly Avg.
Lead (BAT)	0.924	0.429
Zinc (BAT)	3.366	1.386
TSS (BPT) *	135.300	64.350
Cadmium (DD)(BAT)	0.660	0.264

* An allowance was given for TSS in both BPT and in NSPS, but not in the BAT. BCT is to address this issue, however it has not yet been developed, so the BPT allowance is being used.

(k) Respirator wash given in lbs/10^9 lbs of lead bullion produced

Pollutant	Daily Max.	Monthly Avg.
Lead (BAT)	1.484	0.689
Zinc (BAT)	5.406	2.226
TSS (BPT) *	217.300	103.400
Cadmium (DD)(BAT)	1.060	0.424

pH within the range of 7.5 to 10.0 at all times.

PRIMARY LEAD SUBCATEGORY (continued)

(1) Laundering of uniforms given in lbs/10^9 lbs of lead bullion produced

Pollutant	Daily Max.	Monthly Avg.
Lead (BAT)	4.340	2.015
Zinc (BAT)	15.810	6.510
TSS (BPT) *	635.500	302.300
Cadmium (DD)(BAT)	3.200	1.280

pH within the range of 7.5 to 10.0 at all times.

METALLURGICAL ACID PLANTS SUBCATEGORY

Effluent limitations given in lbs/10^6 lbs of 100% Sulfuric acid capacity

Pollutant	Daily Max.	Monthly Avg.
Arsenic (BAT)	3.550	1.584
Cadmium (BAT)	0.511	0.204
Copper (BAT)	3.269	1.558
Lead (BAT)	0.715	0.332
Zinc (BAT)	2.605	1.073
TSS (BPT) *	340.000	150.000
Antimony (DD)(BAT)	4.929	2.196

pH within the range of 7.5 to 10.0 at all times.

* An allowance was given for TSS in both BPT and in NSPS, but not in the BAT. BCT is to address this issue; however, it has not yet been developed, so the BPT allowance is being used.

CATEGORICAL EFFLUENT LIMITATION CALCULATIONS FOR OUTFALL #001

Effluent limitations for arsenic, cadmium, copper, lead, zinc, antimony, ammonia, TSS, and pH from the process wastewater contribution to Outfall 001 are calculated using the above effluent limits and the daily production rates of 0.00009 billion pounds of dross reverbatory slag granulation, 0.002022 billion pounds of primary lead bullion, and 0.708 million pounds of 100% sulfuric acid capacity. Non-scope flows are calculated using the contaminant values found in Table VII-21, on page 248 of Volume I, of the EPA Final Development Document for Effluent Limitations Guidelines and Standards for the Nonferrous Metals Manufacturing Point Source Category. The flow rates are as follows: 3.603 million pounds of stormwater runoff, 0.480 million pounds of non-contact cooling water, and 3.362 million pounds of miscellaneous water flow.

LEAD (CATEGORICAL ALLOWANCES) Daily Maximum

dross reverb slag gran	(0.090 10^6#)	x	(1612.000 #/10^9#)	= 0.145 #
employee hand wash	(0.002022 10^9#)	x	(0.924 #/10^9#)	= 0.002 #
respirator wash	(0.002022 10^9#)	x	(1.484 #/10^9#)	= 0.003 #
uniform laundry	(0.002022 10^9#)	x	(4.340 #/10^9#)	= 0.009 #
met acid plant	(0.708 10^6#)	x	(0.715 #/10^6#)	= 0.506 #
TOTAL				= 0.665 #

LEAD (NON-SCOPE ALLOWANCES) Daily Maximum

storm water runoff	(3.603 10^6#) x (0.28 #/10^6#)	= 1.009 #
non-contact cooling water	(0.480 10^6#) x (0.28 #/10^6#)	= 0.134 #
miscellaneous flows	(3.362 10^6#) x (0.28 #/10^6#)	= 0.941 #
TOTAL		= 2.084 #

LEAD (TOTAL ALLOWANCES) Daily Maximum = 2.749 #

LEAD (CATEGORICAL ALLOWANCES) Monthly Average

dross reverb slag gran	(0.090 10^6#)x (748.400 #/10^9#)	= 0.067 #
employee hand wash	(0.002022 10^9#) x (0.429 #/10^9#)	= 0.001 #
respirator wash	(0.002022 10^9#) x (0.689 #/10^9#)	= 0.001 #
uniform laundry	(0.002022 10^9#) x (2.015 #/10^9#)	= 0.004 #
met acid plant	(0.708 10^6#) x (0.332 #/10^6#)	= 0.235 #
TOTAL		= 0.308 #

LEAD (NON-SCOPE ALLOWANCES) Monthly Average

storm water runoff	(3.603 10^6#) x (0.11 #/10^6#)	= 0.396 #
non-contact cooling water	(0.480 10^6#) x (0.11 #/10^6#)	= 0.053 #
miscellaneous flows	(3.362 10^6#) x (0.11 #/10^6#)	= 0.370 #
TOTAL		= 0.819 #

LEAD (TOTAL ALLOWANCES) Monthly Average = 1.127 #

ZINC (CATEGORICAL ALLOWANCES) Daily Maximum

dross reverb slag gran	(0.090 10^6#) x (5872.000 #/10^9#)	= 0.528 #
employee hand wash	(0.002022 10^9#) x (3.366 #/10^9#)	= 0.007 #
respirator wash	(0.002022 10^9#) x (5.406 #/10^9#)	= 0.011 #
uniform laundry	(0.002022 10^9#) x (15.810 #/10^9#)	= 0.032 #
met acid plant	(0.708 10^6#) x (2.605 #/10^6#)	= 1.844 #
TOTAL		= 2.422 #

ZINC (NON-SCOPE ALLOWANCES) Daily Maximum

storm water runoff	(3.603 10^6#) x (1.02 #/10^6#)	= 3.675 #
non-contact cooling water	(0.480 10^6#) x (1.02 #/10^6#)	= 0.490 #
miscellaneous flows	(3.362 10^6#) x (1.02 #/10^6#)	= 3.429 #
TOTAL		= 7.594 #

ZINC (TOTAL ALLOWANCES) Daily Maximum = 10.016 #

ZINC (CATEGORICAL ALLOWANCES) Monthly Average

dross reverb slag gran	(0.090 10^6#) x (2418.000 #/10^9#)	= 0.218 #
employee hand wash	(0.002022 10^9#) x (1.386 #/10^9#)	= 0.003 #
respirator wash	(0.002022 10^9#) x (2.226 #/10^9#)	= 0.005 #
uniform laundry	(0.002022 10^9#) x (6.510 #/10^9#)	= 0.013 #
met acid plant	(0.708 10^6#) x (1.073 #/10^6#)	= 0.760 #
TOTAL		= 0.999 #

ZINC (NON-SCOPE ALLOWANCES) Monthly Average

storm water runoff	(3.603 10^6#) x (0.31 #/10^6#)	= 1.117 #
non-contact cooling water	(0.480 10^6#) x (0.31 #/10^6#)	= 0.149 #
miscellaneous flows	(3.362 10^6#) x (0.31 #/10^6#)	= 1.042 #
TOTAL		= 2.308 #

ZINC (TOTAL ALLOWANCES) Monthly Average = 3.307 #

ARSENIC (CATEGORICAL ALLOWANCES) Daily Maximum

met acid plant	(0.708 10^6#) x (3.550 #/10^6#)	= 2.513 #
TOTAL		= 2.513 #

ARSENIC (NON-SCOPE ALLOWANCES) Daily Maximum

storm water runoff	(3.603 10^6#) x (1.39 #/10^6#)	= 5.008 #
non-contact cooling water	(0.480 10^6#) x (1.39 #/10^6#)	= 0.667 #
miscellaneous flows	(3.362 10^6#) x (1.39 #/10^6#)	= 4.673 #
TOTAL		= 10.348 #

ARSENIC (TOTAL ALLOWANCES) Daily Maximum = 12.861 #

ARSENIC (CATEGORICAL ALLOWANCES) Monthly Average

met acid plant	(0.708 10^6#) x (1.584 #/10^6#)	= 1.121 #
TOTAL		= 1.121 #

ARSENIC (NON-SCOPE ALLOWANCES) Monthly Average

storm water runoff	(3.603 10^6#) x (0.55 #/10^6#)	= 1.982 #
non-contact cooling water	(0.480 10^6#) x (0.55 #/10^6#)	= 0.264 #
miscellaneous flows	(3.362 10^6#) x (0.55 #/10^6#)	= 1.849 #
TOTAL		= 4.095 #

ARSENIC (TOTAL ALLOWANCES) Monthly Average = 5.216 #

CADMIUM (CATEGORICAL ALLOWANCES) Daily Maximum

dross reverb slag gran	(0.090 10^6#) x (1151.000 #/10^9#)	= 0.104 #
met acid plant	(0.708 10^6#) x (0.511 #/10^6#)	= 0.362 #
emp. hand wash (DD)	(0.002022 10^9#) x (0.660 #/10^9#)	= 0.001 #
uniform laundry (DD)	(0.002022 10^9#) x (3.200 #/10^9#)	= 0.006 #
respirator wash (DD)	(0.002022 10^9#) x (1.060 #/10^9#)	= 0.002 #
TOTAL		= 0.475 #

CADMIUM (NON-SCOPE ALLOWANCES) Daily Maximum

storm water runoff	(3.603 10^6#) x (0.20 #/10^6#)	= 0.721 #
non-contact cooling water	(0.480 10^6#) x (0.20 #/10^6#)	= 0.096 #
miscellaneous flows	(3.362 10^6#) x (0.20 #/10^6#)	= 0.672 #
TOTAL		= 1.489 #

CADMIUM (TOTAL ALLOWANCES) Daily Maximum = 1.964 #

CADMIUM (CATEGORICAL ALLOWANCES) Monthly Average

dross reverb slag gran	(0.090 10^6#)x (460.600 #/10^9#)	= 0.041 #
met acid plant	(0.708 10^6#) x (0.204 #/10^6#)	= 0.144 #
emp. hand wash (DD)	(0.002022 10^9#) x (0.264 #/10^9#)	= 0.001 #
uniform laundry (DD)	(0.002022 10^9#) x (1.280 #/10^9#)	= 0.003 #
respirator wash (DD)	(0.002022 10^9#) x (0.424 #/10^9#)	= 0.001 #
TOTAL		= 0.190 #

CADMIUM (NON-SCOPE ALLOWANCES) Monthly Average

storm water runoff	(3.603 10^6#) x (0.08 #/10^6#)	= 0.288 #
non-contact cooling water	(0.480 10^6#) x (0.08 #/10^6#)	= 0.038 #
miscellaneous flows	(3.362 10^6#) x (0.08 #/10^6#)	= 0.269 #
TOTAL		= 0.595 #

CADMIUM (TOTAL ALLOWANCES) Monthly Average = 0.785 #

COPPER (CATEGORICAL ALLOWANCES) Daily Maximum

met acid plant	(0.708 10^6#) x (3.269 #/10^6#)	= 2.310 #
TOTAL		= 2.310 #

COPPER (NON-SCOPE ALLOWANCES) Daily Maximum

storm water runoff	(3.603 10^6#) x (1.28 #/10^6#)	= 4.612 #
non-contact cooling water	(0.480 10^6#) x (1.28 #/10^6#)	= 0.614 #
miscellaneous flows	(3.362 10^6#) x (1.28 #/10^6#)	= 4.303 #
TOTAL		= 9.529 #

COPPER (TOTAL ALLOWANCES) Daily Maximum = 11.839 #

COPPER (CATEGORICAL ALLOWANCES) Monthly Average

met acid plant	(0.708 10^6#) x (1.558 #/10^6#)	= 1.103 #
TOTAL		= 1.103 #

COPPER (NON-SCOPE ALLOWANCES) Monthly Average

storm water runoff	(3.603 10^6#) x (0.49 #/10^6#)	= 1.765 #
non-contact cooling water	(0.480 10^6#) x (0.49 #/10^6#)	= 0.235 #
miscellaneous flows	(3.362 10^6#) x (0.49 #/10^6#)	= 1.647 #
TOTAL		= 3.647 #

COPPER (TOTAL ALLOWANCES) Monthly Average = 4.750 #

TSS (CATEGORICAL ALLOWANCES) Daily Maximum

dross reverb slag gran	(0.090 10^6#) x (236000 #/10^9#)	= 21.240 #
emp. hand wash	(0.002022 10^9#) x (135.300 #/10^9#)	= 0.274 #
respirator wash (BPT)	(0.002022 10^9#)x (217.300 #/10^9#)	= 0.439 #
uniform laundry (BPT)	(0.002022 10^9#)x (635.500 #/10^9#)	= 1.285 #
met acid plant (BPT)	(0.708 10^6#) x (304.000 #/10^6#)	= 215.232 #
TOTAL		= 238.470 #

TSS (NON-SCOPE ALLOWANCES) Daily Maximum

storm water runoff	(3.603 10^6#) x (15.00 #/10^6#)	= 54.045 #
non-contact cooling water	(0.480 10^6#) x (15.00 #/10^6#)	= 7.200 #
miscellaneous flows	(3.362 10^6#) x (15.00 #/10^6#)	= 50.430 #
TOTAL		= 111.675 #

TSS (TOTAL ALLOWANCES) Daily Maximum = 350.145 #

TSS (CATEGORICAL ALLOWANCES) Monthly Average

dross reverb slag gran	(0.090 10^6#) x (112300 #/10^9#)	= 10.107
# emp. hand wash	(0.002022 10^9#) x (64.350 #/10^9#)	= 0.130 #
respirator wash (BPT)	(0.002022 10^9#) x (103.400 #/10^9#)	= 0.209 #
uniform laundry (BPT)	(0.002022 10^9#) x (302.300 #/10^9#)	= 0.611 #
met acid plant (BPT)	(0.708 10^6#) x (152.00 #/10^6#)	= 107.616 #
TOTAL		= 118.673 #

TSS (NON-SCOPE ALLOWANCES) Monthly Average

storm water runoff	(3.603 10^6#) x (10.00 #/10^6#)	= 36.03 #
non-contact cooling water	(0.480 10^6#) x (10.00 #/10^6#)	= 4.80 #
miscellaneous flows	(3.362 10^6#) x (10.00 #/10^6#)	= 33.62 #
TOTAL		= 74.45 #

TSS (TOTAL ALLOWANCES) Monthly Average = 193.123 #

MISSOURI REGULATIONS

Knowing that the treated wastewater discharged into the Mississippi River receive great dilution, 10 x acute limits apply, and assuming the hardness of the River is > 200 mg/L hardness, and that general warm water aquatic life criteria apply, the water quality limits at the discharge pipe would be:

Cadmium	720 Φg/l
Copper	580 Φg/l
Lead	1900 Φg/l
Silver *	130 Φg/l
Zinc	4900 Φg/l

* Silver is being added because the analysis that accompanied the application for permit renewal indicated a silver content of 30 Φg/l,in the wastewater discharge from Outfall #001.

OUTFALL #002 is tested in conjunction with outfall #001.

OUTFALL #003 oil and grease limits have been added because they were not tested for and because all cooling water outfalls must have oil and grease limits.

OUTFALLS #004 and #005 STORMWATER

Missouri's Water Quality Standards, 10 CSR 20-7.031, define the state's water quality objectives in terms of water uses to be maintained and criteria to protect those uses. The classified streams in the state are listed by name in the standards (table H), and specific use designations are indicated. Outfall 004 for this facility will discharge into Joachim Creek which is classified for **livestock and wildlife watering, aquatic life protection**, whole body contact, boating, and industrial use. Discharges to classified streams have to comply with the general and specific criteria contained in 10 CSR 20-7.031(3), and (4). Paragraph (4) states in part **"Only waters designated for livestock and wildlife watering are considered to be long-term supplies and are subject to the chronic toxicity requirements of the specific criteria."** The hardness of this stream segment is assumed 125-200 mg/l. The general warm water aquatic life designation mandate that the acute values apply as the daily maximum limits, and the livestock and wildlife watering designation mandate that the chronic values apply as the monthly average limits. The United States Environmental Protection Agency and The Missouri Department of Natural Resources IN THE MATTER OF: The Doe Run Resource Corporation, Herculaneum, Missouri, Docket Number RCRA-7-2000-0018/CERCLa-7-2000-0029 entered into an agreement on the methodology for compliance with environmental requirements for all media. A part of the statement of work appendix A.IV. set out the requirements for effluent and storm water discharge from the slag pile, Outfall #004. In addition appendix A.V. specifies the requirements for effluent and storm water discharge from the plant area east of the railroad tracks , Outfall #005. The water quality limits for metals at the discharge point are established to conform with this order. Any modification to this order in the sections referenced would require a modification to this pemit.

ANTI-BACKSLIDING

40 CFR ' 122.44(l) Reissued permits. (1) Except as provided in paragraph (1)(2) of this section when a permit is renewed or reissued, interim effluent limitations, standards or conditions must be at least as stringent as the final effluent limitations, standards, or conditions in the previous permit (unless the circumstances on which the previous permit was based have materially and substantially changed since the time the permit was issued and would constitute cause for permit modification or revocation and reissuance under ' 122.62). The mass limits from the expiring permit are used in the new permit where they are more stringent than those mass limits calculated above. That occurred only in the case of TSS, where the daily maximum was 170.325 pounds per day and the monthly average was 136.257 pounds per day.

OTHER SPECIAL CONDITIONS

The special conditions are attached to the draft permit to explain, in detail, the expectations placed upon the permittee for the operation, monitoring and reporting of the wastewater handling activities at the permitted facility.

PUBLIC PARTICIPATION

Public comments on the proposed permit are being requested in accordance with Public Participation regulation under 10 CSF 20-6.020. A copy of the public notice and this fact sheet are being forwarded to the applicant, the District Engineer of the U.S. Army Corps of Engineers, the Environmental Protection Agency, the U.S. Fish and Wildlife Service, the United States Forest Service, and the Missouri Department of Conservation. Other interested individuals may obtain a copy by writing the address listed below.

The proposed determinations of the draft permit are tentative pending the public notice process. Persons wishing to comment on or object to the proposed determinations are invited to submit them in writing to: Department of Natural Resources, Division of Environmental Quality, P.O. Box 176, Jefferson City, Missouri 65102, ATTN: Phil Schroeder, Permits Section Chief, Water Pollution Control Program. Please indicate the application number of the draft permit in all comment letters.

Within 30 days from the public notice date, as listed on page one, all water quality comments received will be considered in the formulation of all final determinations regarding this applications. If response to the public notice indicates significant public interest, a public hearing may be held in accordance with 10 CSR 20-6.020.

Copies of all draft permits, comments, and other information regarding the permits are available for inspection and copying on the second floor of the Jefferson State Office Building in Jefferson City, Missouri.

PERMIT REGULATIONS

The Federal Water Pollution Control Act ("Clean Water Act" Section 402 Public Law 92-500 as amended) established the National Pollutant Discharge Elimination System (NPDES) permit program. This program regulates the discharge of pollutants from point sources into the waters of the United States. All such discharges are unlawful without a permit (Section 301 of the "Clean Water Act"). After a permit is obtained, a discharge not in compliance with all permit terms and conditions in unlawful. NPDES permits in Missouri are issued by the Director of the Department of Natural resources under an approved NPDES

program, operating in accordance with federal and state laws (Federal "Clean Water Act" and Missouri Clean Water Law" Section 644 as amended).

WATER QUALITY STANDARDS

10 CSR 20-7.031 Missouri Water Quality Standards, Missouri Department of Natural Resources (the Department) "defines the Clean Water Commission's water quality objectives in terms of water uses to be maintained and the criteria to protect those uses".

EFFLUENT LIMITATIONS

In order to protect these beneficial uses and the water quality of surface waters and groundwater, effluent limitations are being established under federal and state laws. The monitoring requirements for all parameters have been established by the Department in compliance with 10 CSR 20-7.015 Effluent Regulation.

The current Department effluent regulations 10 CSR 20-7.015(3)(C) states that non-domestic waste discharges "shall meet the applicable control technology currently effective or that which will become effective during the life of the permit. Where this definition is not available or applicable the Department shall set specific parameter limitations using best engineering judgment as defined in 402(a)(1) of the Federal Clean Water Act".

STANDARD CONDITIONS

The standard conditions attached to the draft permit are applied to all NPDES permittees. They reflect requirements of the federal (40 CFR Part 122) and state (10 CSR 20-Chapter 6) regulations with respect to permittee duties, responsibilities, and liabilities.